

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN FRANCISCO BAY REGION

ORDER No 91 - 010

SITE CLEANUP REQUIREMENT:

ICI AMERICAS, INC.  
RICHMOND, CONTRA COSTA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region, hereinafter called the Board, finds that:

1. ICI Americas Incorporated, hereinafter called the discharger, manufactures and / or formulates chemical herbicides and soil fumigants (principally: Vapam a soil fumigant, and two herbicides Devrinol and Ordram). The discharger previously did developmental work with and / or formulated other herbicides including Eptam, RO-Neet, Sutan, Tilam, Vernam and Vapam. The discharger also uses other organic based chemicals in its process. The plant site is located in the City of Richmond at 1415 S 47th Street.
2. The pond known as Agricultural yard pond (Ag yard pond) is located at the northeast corner of the agricultural formulation area. Ag yard pond was installed in 1973. Total capacity is about 94,000 gallons. The pond is lined with 30 mil hypalon (Chlorosulphonated polyethylene) and has no leachate collection and recovery system.
3. In the past stormwater runoff, chemical spill from the formulations area and contaminated water from the nearby groundwater interception system were discharged to the pond. The contents of the pond were then pumped to an activated carbon treatment system. Presently the discharger indicates that no discharge is going into the pond, and indicates the pond receives incident rainfall and stormwater runoff from the immediate area.
4. Prior to June 1988, the discharger removed the sludge deposited in the pond. The exposed liner shows evidence of considerable deterioration and torn sections which may have resulted in direct leakage into the soil and groundwater beneath the pond. The discharger indicates that tears in the liner occurred during the cleaning process.
5. Title 22 of the California Code of Regulations defines wastes with concentration of zinc and copper in excess of 5,000 mg/kg and 2,500 mg/kg, respectively as hazardous. Wastes (sludge) accumulated in the pond had concentrations of zinc up to 10,099 mg/kg and copper up to 10,631 mg/kg. This unit could pose a threat to water quality.
6. Groundwater around the facility is generally encountered as: shallow groundwater at depths of 7-10ft; intermediate groundwater at depths of 15 to 30 feet; and, deep groundwater at depths 100-130ft below ground surface. The Ag yard pond bottom is below the natural shallow groundwater level. The discharger believes that the shallow groundwater level is depressed below the pond bottom because of the operation of the adjacent groundwater interception trench.
7. A groundwater interception trench drains the shallow groundwater. Due to drainage toward the groundwater interception trench, the Ag yard pond is located within a cone of depression. Groundwater across the Ag

yard pond moves toward the interception trench to the southeast.

8. The Toxic Pits Cleanup Act (TPCA) applies to the Ag yard pond pursuant to sections 25117 and 25208.6 of the Health and Safety Code (HSC).
9. The TPCA prohibits discharge to hazardous waste surface impoundment (or pond) after June 30, 1988, if the pond is within one half mile of a potential source of drinking water [Section 25208.4(a) of the Health and Safety Code ]. The discharger's pond is within one-half mile of a potential source of drinking water.
10. The discharger installed and sampled groundwater monitoring wells at various places on the plant site. Only one of the wells around the Ag yard pond was sampled and reported in the pond's Hydrogeological Assessment Report (HAR). This groundwater monitoring system does not constitute an adequate groundwater monitoring program pursuant to Section 25208.8 (l) of the TPCA.
11. The Board adopted a revised Water Quality Control Plan for the San Francisco Bay Region (Basin Plan) on December 17, 1986 and amended it on August 19, 1987 and July 18, 1989, which contains water quality objectives. These requirements are consistent with that Basin Plan.
12. The beneficial uses of San Francisco Bay (Richmond Inner Harbor) in the vicinity of the site are:
  - a. Contact and non-contact water recreation;
  - b. Fish migration and spawning;
  - c. Wild life and estuarine habitat;
  - d. Preservation of rare and endangered species;
  - e. Industrial process supply;
  - f. Navigation; and,
  - g. Commercial and sport fishing.
13. The potential beneficial uses of the groundwater underlying the site are:
  - a. Municipal water supply and service supply;
  - b. Agricultural supply; and,
  - c. Domestic supply.
14. This action is an Order to enforce the laws and regulations administered by the Regional Board. This action is categorically exempt from the provisions of the California Environmental Quality Act (CEQA) pursuant to Section 15321 of the Resources Agency Guidelines
15. The Board notified the discharger and interested agencies and persons of its intent to prescribe a Site Cleanup Requirement and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.
16. The Board, in public hearing held on January 16, 1991, heard and considered all comments pertaining to the closure.

IT IS HEREBY ORDERED, pursuant to Section 13304 of the California Water Code that ICI Americas Inc. and any other person that owns the land or operates the facility, shall cleanup and abate the effects of the discharge at the TPCA regulated pond, as follows:

A. Prohibitions

1. The operation of this facility shall not create a condition of pollution or nuisance as defined in Sections 13050 (l) and (m), of the California Water Code.

2. The discharge of wastes or hazardous material in a manner which will degrade the water quality or adversely affect the beneficial use of the waters of the state of California is prohibited.
3. Discharge of hazardous wastes to the pond is specifically prohibited after the pond is closed pursuant this order.

B. Specifications

1. The pond shall be closed in manner acceptable to the Executive Officer.
2. The pond shall have facilities adequate to divert surface runoff from adjacent areas, to protect from erosion, to prevent drainage or seepage, and to protect from flooding by tidal or storm water. Adequate protection shall be from at least a 100-year, 24-hour storm and from the highest tidal stage that may occur during a flood with a 100-year return period.
3. The discharger shall conduct groundwater monitoring of the pond in accordance with Self Monitoring Program as adopted by the Board and as may be amended by the Executive Officer.
4. A revised HAR shall be submitted for review and approval. The HAR shall include sampling and analysis of the pond bottom and sides, groundwater from the monitoring wells, and groundwater from the interception system.

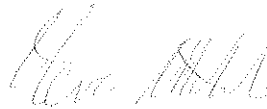
C. Provisions

1. Compliance with Specifications shall be in accordance with the following tasks and time schedule:
  - a. The discharger shall submit a revised hydrogeological assessment report acceptable to the Executive Officer. **Report Due; No later than April 30, 1991**
  - b. The discharger shall submit a technical report, acceptable to the Executive Officer, containing a complete closure plan including, soil and ground water remedial proposals, if necessary as determined by the Executive Officer. **Report Due: No later than July 1, 1991.**
  - c. The discharger shall submit a technical report, acceptable to the Executive Officer documenting closure or completion of necessary tasks related to closure. The report shall include but not be limited to certification of construction methods and materials used. **Report Due: No later than December 31, 1991.**
2. Reports pursuant to compliance with the prohibitions, specifications, or provision of this Order shall be prepared under the supervision of a registered engineer or certified engineering geologist as required by Chapter 15.
3. The discharger shall maintain a copy of this Order at the site so as to be available at all times to site operating personnel.
4. The discharger shall comply with the Self Monitoring Program for this Order as adopted by the Board and as may be amended by the Executive Officer.
5. The discharger shall permit the Board:
  - a. Entry upon premises on which wastes and impoundment are presently or previously located or

in which any required records are kept;

- b. Access to copy of any records required to be kept under terms and conditions of this Order;
  - c. Inspection of monitoring equipment or records; and,
  - d. Sampling of any discharge.
6. These requirements do not authorize commission of any act causing injury to the property of another or of the public, do not convey any property rights, do not remove liability under federal, state or local laws, and do not authorize the discharge of waste without appropriate federal, state, or local permits, authorizations, or determinations.
7. Technical reports submitted by the discharger, in compliance with the Prohibitions, Specifications, and Provisions of this Order shall include the following:
- a. A summary of the work completed since submittal of the previous report and work projected to be completed by the time of next report;
  - b. Identification of any obstacles that may threaten compliance with the schedule of this order and what actions are being taken to overcome these obstacles;and,
  - c. In the event of non-compliance with any Prohibition, Specification or Provision of this Order, written notification which clarifies the reasons for non-compliance and proposes specific measures and a schedule to achieve compliance. This written notification shall identify work not completed that was projected for completion, and shall identify the impact of non compliance on achieving compliance with the remaining requirements of this order.

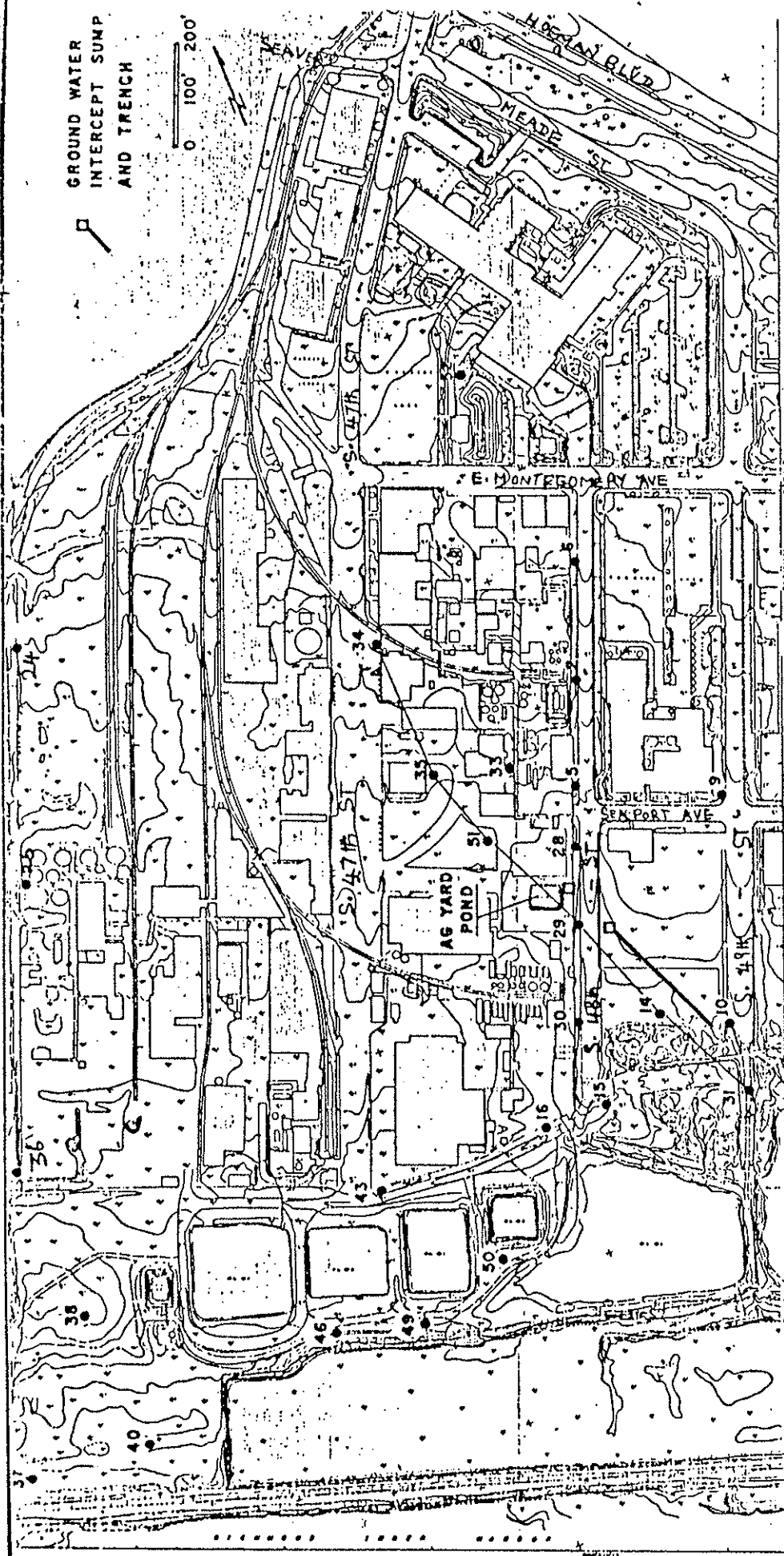
I, Steven R. Ritchie, Executive Officer, do hereby certify the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on January 16, 1991.



STEVEN R. RITCHIE  
Executive Officer

Attachments:

Attachment A - Site Map  
Self Monitoring Program.



**STAUFFER CHEMICAL CO.**  
 ENGINEERING DEPARTMENT - WESTERN DIVISION  
 RICHMOND, CALIFORNIA

LOCATION OF WELL & FACILITIES NEAR THE  
 AGRICULTURAL YARD POND RICHMOND

|          |            |             |          |
|----------|------------|-------------|----------|
| DRAWN BY | CHECKED BY | APPROVED BY | SCALE    |
| DATE     | DATE       | DATE        | INTERVAL |

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ATTACHMENT A: SITE MAP

NOTE  
 1. This map was prepared by the Stauffer Chemical Co. Engineering Department, Western Division, Richmond, California, for the purpose of showing the location of the Agricultural Yard Pond and the well located near the pond. The map is not to be used for any other purpose without the written consent of the Stauffer Chemical Co. Engineering Department.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM

FOR

ICI AMERICAS INC.

1415 S. 47TH STREET, RICHMOND, CALIFORNIA, 94804

CLASS I POND

RICHMOND, CONTRA COSTA COUNTY

SITE CLEANUP REQUIREMENT  
ORDER No 91 - 010

CONSISTS OF

PART A

AND

PART B

## PART A

### A. General

1. Reporting responsibilities of waste dischargers are specified in Sections 13225 (a), 13267 (b), 13383, and 13387 (b) of the California Water Code and this Regional Board's Resolution No. 73-16.
2. The principal purposes of a self-monitoring program by a waste discharger are the following:
  - a. To document compliance with waste discharge requirements and prohibitions established by the Board;
  - b. To facilitate self-policing by the waste discharger in the prevention and abatement of pollution arising from waste discharge;
  - c. To develop or assist in the development of effluent standards of performance, pretreatment and toxicity standards, and other standards; and,
  - d. To prepare water and wastewater quality inventories.

### B. Sampling and Analytical Methods

1. Sample collection, storage, and analyses shall be performed according to the most recent version of Standard Methods for the Analysis of Wastewater, and Test Methods for Evaluating Solid Waste EPA Document SW-846, or other EPA approved methods and in accordance with an approved sampling and analysis plan. Soil sampling shall be by Waste Extraction Technique (WET) or other standard methods submitted for approval.
2. Water and waste analysis except total suspended solids (TDS) shall be performed by a laboratory approved for these analyses by the State Department of Health. The director of the laboratory whose name appears on the certification shall supervise all analytical work in his/her laboratory and shall sign all reports of such work submitted this Regional Board.
3. All monitoring instruments and equipment shall be properly calibrated and maintained to ensure accuracy of measurements.

### C. Definition of Terms

1. A grab sample is a discrete sample collected at any time.
2. Duly authorized representative is either a named individual or any individual occupying a named position such as the following:
  - a. Authorization is made in writing by a principal executive officer; or,
  - b. Authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as general partner in a partnership, sole proprietorship, the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company.

### D. Schedule of Sampling, Analysis, and Observations

1. The discharger is required to perform sampling, analysis, and observations according to the schedule specified in Part B, and the requirements in Chapter 15, Division of the CCR.
2. A statistical analysis shall be performed and reported annually as described in the current revision of Chapter 15, Division 3 of CCR.

E. Records to be Maintained by the Discharger

1. Written reports shall be maintained by the discharger for ground water monitoring and wastewater sampling, and shall be retained for a minimum of three years. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge or when requested by the Board. Such records shall show the following for each sample:
  - a. Identity of sample and sample station number;
  - b. Date and time of sampling;
  - c. Date and time that analyses are started and completed, and the name of the personnel performing the analyses;
  - d. Complete procedure used, including the method of preserving the sample, and the identity and volumes of reagents used (A reference to a specific section of a reference required in Part A Section B is satisfactory);
  - e. Calculation of results;
  - f. Results of analyses, and detection limits for each analyses; and,
  - g. Chain of custody forms for each sample.

F. Reports to be Filed with the Board

1. The report period shall be done on a calendar quarterly basis. For quarterly ground water monitoring reports, written reports shall be filed regularly each quarter within forty-five days from the end of the quarter monitored. In addition an annual report shall be filed as indicated in section F.1.g. The fourth quarterly report may be attached as an appendix to the annual report. The reports shall include the following:
  - a. Letter of Transmittal - A letter transmitting the essential points in each self-monitoring report should accompany each report. Such a letter shall include a discussion of any requirement violations found during the last report period, and actions taken or planned for correcting the violations, such as, operation and/or facilities modifications. If the discharger has previously submitted a detailed time schedule for correcting requirements violations, a reference to the correspondence transmitting such schedule will be satisfactory. If no violations have occurred in the last report period this shall be stated in the letter of transmittal. Monitoring reports and the letter transmitting the monitoring reports shall be signed by a principal executive officer at the level of vice president or his duly authorized representative, if such representative is responsible for the overall operation of the facility from which the discharge originates. The letter shall contain a statement of the official, under penalty of perjury, that to the best of the signer's knowledge the report is true, complete, and correct. The letter shall contain the following certification:

"I certify under penalty of law that this document and all attachments are prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who managed the system, or those persons directly responsible of gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."
  - b. Summary Sheet - Each monitoring report shall include a compliance evaluation summary sheet.



Until the Order is amended to specify ground water protection standards, the following shall apply and the compliance sheet shall contain:

- (1) The method and time of water level measurement; the type of pump used for purging, pump placement in the well, method of purging, pumping rate; equipment and methods used to monitor field pH, temperature, turbidity, and conductivity during purging; calibration of the field equipment, results of the pH, temperature, turbidity, and conductivity testing; well recovery time, and method of disposing of the purge water; and,
  - (2) Type of pump used, pump placement for sampling, a detailed description of the sampling procedure; number and description of equipment, field and travel blanks; number and description of duplicate samples; type of sample containers and preservatives used, the date and time of sampling, the name and qualifications of the person actually taking the samples, and any other observations; and, the chain of custody record.
- c. A summary of the status of any remediation work performed during that quarter. This shall be a brief and concise summary of the work initiated and completed as follows:
- (1) As interim corrective action measures; and,
  - (2) To define the extent and rate of migrations of waste constituents in the soil and ground water at the site.
- d. The discharger shall describe, in the quarterly report, the reasons for significant increases in a pollutant concentration at a ground water monitoring well. The description shall include the following:
- (1) The source of the increase;
  - (2) How the discharger determined or will investigate the source of the increase; and,
  - (3) What source removal measures have been completed or will be proposed.
- e. On a semi-annual basis, a map or aerial photograph showing observation and monitoring station locations, and plume contours (if any) for each chemical in each aquifer shall be included as part of the quarterly Report.
- f. Laboratory statements of results of analyses specified in Part B must be included in each report. The director of the laboratory whose name appears on the laboratory certification shall supervise all analytical work in his/her laboratory and shall sign all reports of such work submitted to the Board. The following information shall be provided:
- (1) The methods of analyses and detection limits must be appropriate for the expected concentrations. Specific methods of analyses must be identified. If methods other than EPA approved methods or Standard Methods are used, the exact methodology must be submitted for review; and,
  - (2) In addition to the results of the analyses, laboratory quality control/quality assurance (QA/QC) information must be included in the monitoring report. The laboratory QA/QC information should include the method, equipment and analytical detection limits; the recovery rates; an explanation for any recovery rate that is less than 90%; the results of equipment and method blanks; the results of spiked and surrogate samples; the frequency of quality control analysis; and the name and qualifications of the person(s) performing the analyses.

- g. By January 31 of each year the discharger shall submit an annual report to the Board covering the previous calendar year. This report shall contain:
  - (1) Tabular and graphical summaries of the monitoring data obtained during the previous year;
  - (2) A comprehensive discussion of the compliance record, and the corrective actions taken or planned which may be needed to bring the discharger into full compliance with the waste discharge requirements; and,
  - (3) A written summary of the ground water analyses indicating any change in the quality of the ground water.
- 2. In the event the discharger violates or threatens to violate the conditions of the waste discharge requirements and prohibitions or experiences a leachate generation or intends to experience a plant bypass or treatment unit bypass due to:
  - a. Maintenance work, power failures, or breakdown of waste treatment equipment, or;
  - b. Accidents caused by human error or negligence, or;
  - c. Other causes, such as acts of nature.

The discharger shall notify the Regional Board office by telephone as soon as he or his agents have knowledge of the incident and confirm this notification in writing within 7 working days of the telephone notification. The written report shall include time and date, duration and estimated volume of waste bypassed, method used in estimating volume and person notified of the incident. The report shall include pertinent information explaining reasons for the noncompliance and shall indicate what steps were taken to prevent the problem from recurring.

In addition, the waste discharger shall promptly accelerate his monitoring program to analyze the discharge at least once every day. Such daily analyses shall continue until such time as the leachate generation has ceased, the effluent limits have been attained, until bypassing stops or until such time as the Executive Officer determines to be appropriate. The results of such monitoring shall be included in the regular Quarterly Report.

## Part B

### A. Description of Observation Stations and Schedule of Observations

1. The observation stations shall consist of the groundwater interception trench and groundwater monitoring wells near enough to the Ag yard pond and monitoring the shallow and intermediate water bodies beneath the pond.
2. The schedule of observations and grab sampling shall be quarterly and shall be conducted within the months of January, April, July and October.

### B. Observations and Test Procedures

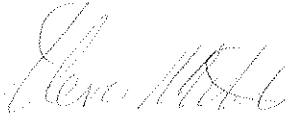
1. The observations shall consist of the following:
  - a. Water elevation reported to the nearest 0.1 inch for both depth to water from the ground surface and the elevation of the ground water level;
  - b. Ground water temperature measured at the time of sampling and reported in degrees Fahrenheit;
  - c. Ground water conductivity measured at the time of sampling as per Standard Methods 205 using potentiometric methodology;
  - d. Ground water pH measured at the time of sampling as per Standard Methods 423 using potentiometric methodology; and,
  - e. Ground water turbidity measured at the time of sampling and reported in NTU units.
2. The test procedures for the ground water samples shall consist of the following:
  - a. Groundwater samples shall be analyzed for:
    1. Cadmium, Copper, Selenium, Zinc and Lead. Analysis shall use the appropriate SW 846 EPA 6000 series method.
    2. Benzene, Chlorobenzene, 1,2 - Dichlorobenzene. Analysis shall be by gas chromatography / mass spectroscopy technique using an appropriate SW 846 EPA 8020 methods; and,
    3. Proprietary chemical and pesticides using gas chromatography technique following SW 846 EPA 8140 and 8150 method as appropriate. Analysis procedure should be documented and submitted to the Board.
  - b. In the event of increased pollutant concentration in the ground water samples, revised monitoring program proposal to assure adequate definition of the extent of contamination of pollutants in groundwater wells shall be submitted along with test results.

### C. Special Provision

1. The Executive Officer will consider reviewing the sampling frequency and number of substances sampled after the first monitoring report.

I, Steven R. Ritchie, Executive Officer, hereby certify that the foregoing Self-Monitoring Program is as follows:

1. Developed in accordance with the procedures set forth in this Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in this Board's Order No. 91 - 010;
2. Effective on the date shown below; and,
3. May be reviewed or modified at any time subsequent to the effective date, upon written notice from the Executive Officer, or request from the discharger.



Steven R. Ritchie  
Executive Officer

January 16, 1991  
Date Ordered